

FOOD *Review*

September 2004

A bulletin on Food
Safety and Sanitation
from Public Health
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Dishwashing Methods: Effective Control of Disease Risk

Ineffective dishwashing is a common violation seen during routine health inspections in Boise area food establishments. Contaminated equipment is the 4th most common cause of foodborne illness in the U.S. This article will summarize essential information that can minimize this disease risk.



Effective dishwashing is defined as application of heat or chemicals on clean food-contact surfaces that reduce 99.99% of pathogens (disease-causing bacteria, viruses, parasites) on those surfaces. Bacteria and viruses in saliva are transferred to other customers through contaminated dishes, cups, and utensils, if dishwashing methods are ineffective in removing these bacteria and viruses.

Dishwashing commonly involves use of water at either a low-temperature or a high-temperature. Either will be effective if operators understand their differences and follow standard practices.

Low-temp dishwashing methods kill bacteria and viruses during the final sanitizing rinse using an approved chemical in water, usually bleach (chlorine) or quats (quaternary ammonium) compounds. [Iodine is approved but rarely seen in area establishments]. This method can be used in either 3-compartment sinks or in automatic dish machines as summarized below:

3-compartment sinks [use sanitizer in 3rd compartment]:

- Flush or scrape dishes before washing to remove all visible food.
- Uses 4-step manual method [in order: Wash—Rinse—Sanitize (bleach or quats)—Air dry]
- **Bleach:** – use common, non-perfumed bleach (not Ultra bleach), use chlorine test strips daily to ensure 50-100 ppm concentration (maximum is 200 ppm). [Hold test strip in bleach water, changes color immediately, compare with color scale]– kills with 10 seconds contact time. Mix 1 ½ teaspoons bleach per gallon of warm water (hot water will remove chlorine sanitizer). Mix bleach with water only to prevent harmful chemical reactions.
- **Quats:** – use quat test strips daily to ensure 200 ppm unless label recommends different concentration [To test concentration, water must be at room temperature. Hold test strip in water for 10 seconds, then compare to color scale]. Kills with 30 seconds contact time. Mix quats with water only (prevents harmful reactions). Always follow mixing directions on label.

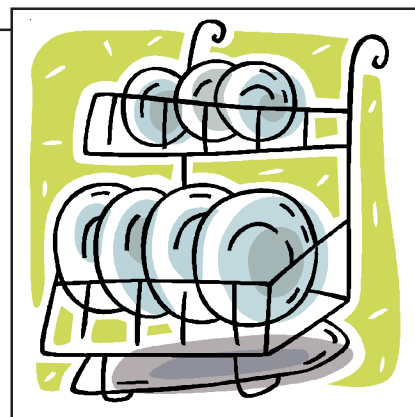
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Low-temp dish machines:

- Flush or scrape dishes before washing to remove all visible food.
- Uses 4-step automatic method [wash –rinse—sanitize—air dry]
- Uses low-temperature water (high-temp water will remove the chlorine sanitizer).
- Injects chlorine onto dishes in the final rinse.
- Use test strips daily to ensure 50 –100 ppm chlorine concentration – wipe test strip across wet plate surface at end of cycle.
- Check bleach container often, change as necessary, re-prime when changing to new container, call vendor for directions as needed.



Important: Never mix chemicals except as directed on label. Improper mixing can release poisonous gases. All containers should have proper labels. Train employees on chemical uses.

High-temperature dishwashing methods kill bacteria and viruses with hot water. Water comes from the water heater at minimum 140 °F, the booster increases the water temperature to 180 °F – 190 °F. As water sprays onto dishes it cools, but must be no less than 160 °F at the plate surface. Any significant problem in this system will not deliver sufficiently hot water to the dishes. Temperature gauges may not be reliable. Running thermopaper (temperature test paper) or a waterproof recording thermometer through the dish machine with the dishes will enable the operator to know the dish machine is meeting temperature standards and killing bacteria and viruses.

High-temperature dishwashing method:

- Flush or scrape dishes before washing to remove all visible food.
- Uses 4-step automatic method
- Uses hot water to kill bacteria and viruses on dishes
- Use approved thermometer or thermopaper to verify sufficient hot water at plate surface – do not rely on dishmachine gauges.

COMMON VIOLATIONS – RECOMMENDATIONS FOR ALL DISHWASHING METHODS:

1. **Handwashing before and after dishwashing not done by operators.** Dish machine operator loading dirty dishes into machine or sink, and then touching clean dishes without first washing hands or using approved glove method. This is a common way to contaminate clean and sanitized dishes. Several methods are acceptable. Operator can wear removable heavy gloves when handling dirty dishes, then remove those gloves to handle clean dishes. Or assign two operators – one handles only dirty dishes, the other handles only clean dishes. Or wash hands between handling dirty and clean dishes. Do not touch the eating surface of the plate, cup, or utensil with fingers, thumbs, or contaminated objects. This is an essential hygienic practice in disease prevention.
2. **Dishmachine operator not monitoring chemical concentration or temperatures DAILY.** Train all operators in daily use of test strips or approved thermometers, assign employees with daily responsibility for dish machine operation, maintain a daily log – record chemical concentrations or temperatures. Do not follow the advice of some vendors who promise that they will monitor this for you on their visits, commonly 1-2 visits per month. Owners, managers, and dishwashing operators must ensure daily testing meets standards for concentration or high temperature. Empty chemical containers (low-temp dishmachine or chemical dispensers) or broken dishmachine parts commonly go unnoticed unless operators check concentrations or temperatures at least daily.
3. **Correct test strips or temperature-testing thermometers are not available for the operators.** Chlorine (bleach) sanitizers require chlorine test strips. “Quat” sanitizers require quat test strips. These are different compounds, require different test strips, and require different concentrations and testing procedures. Do not over-concentrate these chemicals (more is not better) as they can become toxic. High-temperature dishmachines use thermopaper (160 °F) or waterproof recording thermometers to ensure 160 °F water at the plate surface.

4. **Employees have cuts, sores, or skin diseases which may transfer disease organisms to dishes.** When in doubt, assign employees to non-food prep or non-dishwashing duties or have them wear rubber gloves.
5. **Employees not properly trained or do not understand training information.** Training information in English and many foreign languages is available through the health department's website at www.cdhd.idaho.gov or www.profoodsafety.org. These materials can assist you in training employees.

Effective dishwashing methods and controls will minimize the risk of disease in your food operation. Training must include understanding the risks of disease associated with ineffective dishwashing, use and daily testing of low-temperature or high-temperature sanitizing methods, and hygienic practices that employees must always use to prevent food-borne diseases.

B. Fulleton, *Public Health Specialist, CDHD*

BASIC FOOD SAFETY TRAINING FOR FOOD SERVICE WORKERS

Your best defense against a customer contracting a foodborne illness from your food establishment is by educating your employees in food safety and sanitation principles. Ultimately it is the managers or owners responsibility to monitor their employee's food handling practices and continuously encourage food service employees to practice what they have learned in basic food safety principles. The Unicode requires that all employees be trained in food safety and that documentation of training be on file.

The Central District Health Department is offering a two-hour session in Basic Food Safety Principles for \$15.00 for food service workers. We will offer this class at the Boise office on Mondays 9 a.m. to 11 a.m. If you would like us to come to your establishment to present Basic Food Safety Principles a minimum of 10 students is required. Yes, we will travel to Boise, Elmore and Valley Counties to present Basic Food Safety Principles too. Call us if you have questions or would like more information.

Beth Norberg is our new Food Safety Trainer and is a Certified Health Education Specialist. Contact Beth in the Environmental Health Department at 327-8526.

We are starting with a Basic Food Safety course and will offer more specific topics in the near future. Proper cooling methods, hygienic practices, sanitation, no bare hand contact with ready-to-eat foods, and risk control plans are some classes we are considering. If you have a specific food safety training need, consult Environmental Health so we can assist you in serving safe food to your customers.

FOOD SAFETY RISK FACTOR CONSULTATION: AN EDUCATIONAL APPROACH

Central District Health cannot emphasize enough the importance of food safety training for food service workers and food service managers and owners. Bob Mayer, a licensed Registered Environmental Health Specialist and veteran food safety specialist with Central District Health has been assigned to provide Risk Factor Assessments of your food handling operation by appointment. Bob will be contacting food establishment operators to conduct an educational consultation concerning your food safety operation.

These educational risk factor consultations will be held at your food establishment, where the owner or manager can explain in detail, daily food handling, preparation and service operations. Operational methods will be evaluated, and recommendations will be made to reduce the risk of a foodborne illness for your customers.

Critical Risk Factors in food safety are: Cooking Temperature • Improper Holding Temperature and Time • Hygienic Practices • Approved Source • Cross Contamination

Contact Bob Mayer at 327-8534 for more information about Risk Factor Consultations in food safety.



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Lists! Lists! Lists!

All of us have them. Wish lists, checklists, to do lists. We make a list and include it on a list. There is the official list, as well as the price list. People have quest lists, grocery lists and souvenir lists.

As restaurant and food service managers you have lists too. Special lists that pertain to your operation. Some lists concern sales, food safety, or employee issues. One important list all managers must be aware of is the maintenance list. A very important item on that list should be the servicing of your establishment's backflow and backsiphonage prevention device or devices. Servicing is to include an operational test and component inspection by a certified testing company. This should be accomplished yearly.

What will this addition to your maintenance list do for you? The backflow and backsiphonage prevention devices are required by Idaho Unicode, Section 600, Sanitary Controls, for the protection of the water supply. This enables you as a manager to provide healthy and safe food and water to your employees and customers. Everyone wins! So check your list. Ensure yearly backflow and backsiphonage devices are on your yearly maintenance list. - (Deb Carney - *Public Health Specialist, CDHD*)

MICE! Mice are now looking for winter homes.
Keep doors closed and traps set!

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check out our website:

cdhd.idaho.gov

Extra copies of the newsletter are available at your local Health Department office.